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2010
Summer

SHORTIA

NEWSLETTER OF THE

WESTERN CAROLINA BOTANICAL CLUB

SUMMER 2010



Shortia galacifolia

Oconee Bells

WESTERN CAROLINA BOTANICAL CLUB

President
Vice President

Juanita Lambert
Frances Jones

Secretary
Treasurer

Nancy Iha
Alan Graham

From the President Juanita Lambert

We all have our favorite Botanical Club outings; those we wouldn't miss unless we were infirm. I find that I really like outings with a large variety of species. Recent outings to Pearson's Falls and Twin Bridges along the North Pacolet River are two of my favorites.

What are your favorite outings? Twice each year a scheduling committee of the Botanical Club meets to lay out the schedule for six months, but a committee cannot be too large, and therefore may not schedule some of the outings you really like as often as you'd like. This is an appeal for your input to scheduling outings -which outings should we do more (or less) often, and what new outings do you think we should try?

The Club conducts a wide variety of botanical walks. Some are very short walks amongst rich displays of flora; another type involving little walking are the stop-and-go outings. Most of our outings seem to be about one to four miles in length, where we go out-and back, in a loop, or do a car shuttle. Some outings consist of walks longer than four miles in order to reach special plant communities. Another category would be visits to members' gardens. Some outings are close by, convenient to most members, but others involve longer travel to unique sites. Except for the very short and stop-and-go outings, difficult trail conditions could be a negative factor for some folks, but Tom Goforth's off-trail excursions really appeal to others. Often we schedule multiple outings to the same location during the growing season in order to observe changes during the year. Is this approach of interest to many? Sometimes we travel longer distances to a special area of botanical interest, making it an overnight outing.

The variety of outings is intended to provide something for everyone, but do we have the right mix? Each of us has our preferences amongst the underlined categories of outings in the previous paragraph, as well as those we are not interested in at all. Some outings are so obviously popular that we schedule them for each year. Others could perhaps be scheduled every other year on a regular basis; would that be a good policy? Some categories are so unique that only one outing should be scheduled in a year.

What are your preferences? We are all ears . Please think seriously about which outings and categories of outings you like, and relay your thoughts to the Scheduling Team by e-mail or in person at any time during the year. Scheduling Team leaders are: Bonnie Arbuckle(barbuckle@brinet.com) and Ken Borgfeldt(kborgfeldt@gmail.com).

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Cover: The flower on the cover is *Shortia galacifolia*, Oconee Bells. Our newsletter is named for this southern endemic which is now rare in the wild.

Member News

New Members

Bonnie Allen, Weaverville
Mary Kathryn Hardman, Brevard
Mary Beth Hayes, Hendersonville
Keiji and Stefani Oshima, Edneyville
Saretta Prescott, Highlands
Cindi Probst, Asheville
Carroll Toole, Hendersonville
Carolyn Trapp, Mills River
Donna Van Kampen, Hendersonville
Jane White, Asheville

-Name correction: Jean Lemire, joined in March, 2010

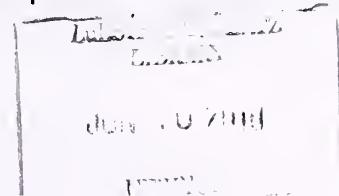
UNC-TV nature program: "Exploring North Carolina" can be seen during June
Thursday, June 3 at 8:30 and Friday, June 4 at 9:30 - "Invaders Among Us"
Thursday, June 10 at 8:30 and Friday, June 11 at 9:30 - "Fishy Science"
Thursday, June 17 at 8:30 and Friday, June 18 at 9:30 - "Our Place in Space"
Thursday, June 24 at 8:30 and Friday, June 25 at 9:30 - "Lawson's Journey"

"Tom Earnhardt's heartfelt embrace of the state's natural wonders opens
an eye-opening world."

For the spring issue of *Shortia*, Jenny Lellinger wrote an article on the plant family *Iridaceae*.
She has chosen for her second article the Bunchflower family, *Melanthiaceae*.
See pages 5 and 6.

Any change of address, e-mail or telephone number, please inform Alan Graham, 544
Tip Top Road, Brevard, N.C. 28712. 828-884-3947 <adgraham@citcom.net>

Field Trip Cancellations. On occasion field trips need to be cancelled or changed either for weather conditions or other reasons such as road closings. Such changes are sent out by e-mail to all members at the latest by 7 a.m. the day of the field trip. If you do not have e-mail access, we will try to reach local members by telephone by 7 a.m. If in doubt, contact a leader or co-leader whose telephone number is listed on the schedule. When a field trip is cancelled, no member will be at the contact point.



We started the new season with a cancellation. In keeping with the indecision of last season, the day was sunny but the trail was snowbound. So the **Hardy Souls Hike** was called off.

The **Station Cove** walk started a little on the chilly side but warmed up as the walk progressed. It was highlighted by masses of Sharp-lobed Hepatica (*Hepatica nobilis v. acuta*). A stop was made at Devils Fork State Park to see the Oconee Bells (*Shortia galacifolia*).

The walk at **Jones Gap State Park** was highlighted by a guest leader, Rudy Manke, a South Carolina nature TV personality. Bloodroot (*Sanguinaria canadensis*) was in bloom as were a variety of violets including Halberd-leaved Violet (*Viola hastata*) and Long-spurred Violet (*Viola rostrata*).

We had a large turnout for **Pearson Falls** as cabin fever seemed to be spreading after the long winter. The trilliums were making their first appearance including Toadshade (*Trillium cuneatum*), Large-flowered Trillium (*Trillium grandiflorum*) and Wake Robin (*Trillium erectum*).

The rock slide on I-40 caused us to cancel the scheduled trip to **Baxter Creek**. We substituted a walk along **Pulliam Creek Trail**. As on earlier walks, lots of blooming violets and an abundance of Toadshades (*Trillium cuneatum*) were found. The first part of the walk through a controlled burn area is still desolate even after three years.

A record (at least by recent standards) turnout showed up for **Twin Bridges** and were not disappointed. Blue Cohosh (*Muscaria neglectum*) was in full bloom and we got to test the rumor that it smells like cardboard (mixed reviews!). Loads of blooming plants including nice specimens of Wild Ginger (*Asarum canadense*) were seen.

Glassy Mountain was not up to its usual standards as blooming plants were not as abundant as usual. The Elf Orpine (*Diamorpha smallii*) appears to be dwindling, which is a shame. The Hairy Spiderwort (*Tradescantia hirsuticaulis*) was in full bloom and this is one of the few places we see this plant.

The trip to **Gorges State Park** using the new parking area/trailhead was highlighted by Rainbow Falls and Turtleback Falls. The Catesby's Trilliums (*Trillium catesbaei*) were in bloom. The first of the green Jack-in-the-Pulpit (*Arisaema triphyllum*) were found. We had seen the purple variety so far.

The walk at **Pilot Mountain** was a success as we got to see the Pinkshell Azalea (*Rhododendron vaseyi*). Other blooming plants appearing for the first time on recorder sheets included Wood Anemone (*Anemone quinquefolia*) and a variety of Rues.

Western Carolina Botanical Club Membership

Arden N.C.	Cedar Mountain, N.C.	Landrum N.C.
Jackson, Howard & Linda	Steinberg, Aleen	Ewing, Ann
Asheville, N.C.	Wilcox, Gail	Lexington N.C.
Beyer, Patsy	Edneyville, N.C.	Fisher, Don
Conway, Rachel M.	Oshima, Keiji & Stefani	Long Boat Key, FL.
Durpo, Wilma	Etowah N.C.	Blackwell, Rusty
Hankins, Diane	Barnes, Christine	Marion, N.C.
Hansens, Aline	Charlebois, Joy	Goldsmith, James W.
Kolton-Dwarshuis, Marilyn & Louis	Flat Rock, N.C.	Mills River, N.C.
Lackey, Charlotte	Arbuckle, Bonnie	Trapp, Carolyn
Middleton, Dave & Milly	Gibson, Ruth Anne & John	Montreat, N.C.
Probst, Cindi	Jones, Frances	Standaert, Joe & Mary
Reed, John	McCurdy, Mike & Cynthia	Norcross, Ga.
Robbins, Paula	Greenville, S.C.	Arrington, Daisy
Schuman, Nancy	Wasson, April	Ormond Beach, Fl.
Siddall, John & Muriel	Hendersonville, N.C.	McDaniel, Lois
Tait, Andy	Anderson, Ken & Jane	Palm Harbor, Fl.
White, Jane	Armstrong, Rebecca	Pearson, Bud & Laverne
Black Mountain, N.C.	Bentley, Glenda	Pisgah Forest, N.C.
Feil, Elisabeth	Bockoven, Paul & Beth	Goldthwaite, John & Sheila
Bon Air, VA.	Borgfeldt, Ken & Chris	Koelling, Karen
Verduin, Bill & Evelyn	Collins, Ed	Lemire, Jean
Brevard, N.C.	Dice, Bill & Ann	Schmidt, Christene
Farrar, W. Edmund & Carver	Duncan, Tina	Smith, Helen M.
Graham, Alan	Fouts, Carol & Gregory	Spencer, Kim
Hardman, Mary Kathryn	Hayes, Mary Beth	Saluda, N.C.
Hudson, Jack & Dorothy	Herman, Don & Dana	Pearson, Millie
ha, Nancy & Tom	Kirkland, Jean	Spruce Pine, N.C.
Jones, Betty	Koch, Barbara	Gray, Gussie
Lellinger, Jenny & Dave	Kotch, Sharon	Suwanee, Ga.
Prescott, Saretta	Lambert, Larason & Juanita	Drake, James P. (Jim)
Nol, Maryke	Lenhart, Jean	Sylva, N.C.
Schifeling, Daniel & Annalee	Miller, Don & Linda	Miller, Earl & Bettye
Smith, Jeanne	Montgomery, Bob and Elaine	Stenger, Gloria
Sunflower, Sue	Polchow, Margaret Ann	Tryon, N.C.
Walls, Harriet	Prim, Lucy and Bob	Grosser, Judith
Woods, Jean	Toole, Carroll	Jenks, Mary Clare
Campobella, S.C.	Ulinski, Anne	ter Kuile, Robbie
Ashburn, Carolyn/Hearon, Chuck	Van Campen, Donna	Travelers Rest, S.C.
Candler, N.C.	Highlands, N.C.	Prickett, Ema
Tuenge, Teena	Landwehr, Barbara	Waynesville, N.C.
Canton, Ga.	Poole, Edwin	Couric, Elrose & Sue Hollinger
Avery, Larry	Horse Shoe, N.C.	Fitts, Jackie
Canton, N.C.	Hudelson, Fran	Weaverville N.C.
Fishback, H.D. and Jan	Lake Toxaway, N.C.	Allen, Bonnie

Some members are summer visitors

FLOWERING PLANT FAMILIES – Melanthiaceae – Bunchflower Family

The Lily Family (Liliaceae), in its broadest sense, includes around 280 genera and 4200 species worldwide, of which roughly 70 genera and 478 species are found in North America. In order to narrow the scope of this article, I have chosen to cover a group of genera that some taxonomists recently have treated as a separate family: the Bunchflower Family (Melanthiaceae). Alan Weakley uses this approach in his *Flora of the Southern and Mid-Atlantic States* (March 2010 version –available online). *Melanthium* is often used as the generic name for some of this family's species.

Melanthiaceae species are monocots. From our Spring *Shortia*, you may remember the two basic clues that we can use to identify monocots:

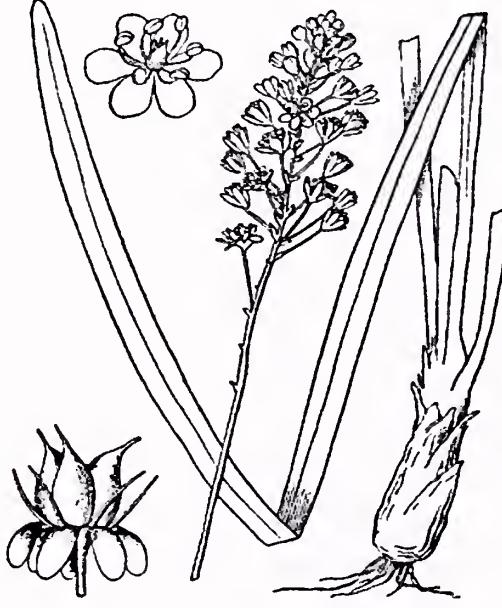
Leaves are generally narrow and parallel-veined (dicot leaves are often broader and veins are never truly parallel).

Flower parts are often in threes or multiples of three (dicot parts may appear in fours, fives, or more).

Examples of monocots are: grasses, orchids, palms, trilliums, asparagus, and irises.

Some of the genera Melanthiaceae that we most often encounter are: *Amianthium* (Fly-poison), *Stenanthium* spp. (Featherbells), and *Veratrum* spp. (False Hellebores). The inflorescences (how flowers are arranged on a plant) of these genera are generally panicles (compound, branched racemes).

Amianthium is a genus that contains only one species: spelled *A. muscotoxicum* (Fly-poison). As its name implies the plant contains alkaloids that are toxic to flies. Cattle have been known to die from ingesting this plant.

	<p><i>Amianthium muscotoxicum</i> Fly-poison</p> <p>Britton, N.L., and A. Brown. 1913. <i>An illustrated flora of the northern United States, Canada and the British Possessions</i>. Vol. 1: 489.</p> <p>Check out Bear Pen Gap, Buck Springs Nature Trail, and Haywood Gap in the last week of July.</p>	<p>Thriving in moist forests, this woodland plant displays a single erect raceme of multiple flowers with six creamy-white tepals (similar petals and sepals). This narrow-leaved perennial is primarily pollinated by beetles.</p> <p>Its leaves, bulb, and roots are toxic. Colonists used the bulb mixed with sugar to kill flies.</p>
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The genus of Melanthiaceae with the greatest number of species that we might encounter in our area is *Veratrum*. *Melanthium* is a synonym for some *Veratrum* species. *Veratrum viride* is the one we most commonly see. Like most members of this genus, this species is highly toxic. Insecticide was formerly manufactured from its roots.

	<p><i>Veratrum viride</i> Indian Hellebore, Green False Hellebore</p> <p>Britton, N.L., and A. Brown. 1913. <i>An illustrated flora of the northern United States, Canada and the British Possessions</i>. Vol. 1: 494.</p> <p>Check out Bear Pen Gap, Heintooga Spur, and the Shut-in Trail to Elk Pasture Gap in the first week in August.</p>	<p>This stout, perennial bearing large, lush, pleated, vibrantly green leaves grows on the forest floor in the Spring in openly wooded, rich coves.</p> <p>If you've asked yourself "when does it bloom?" You're not alone. Its green flowers, borne on terminal panicles atop tall, erect stems, mostly bloom in Aug.-Sept.</p>
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Only one species of *Stenanthium* (Greek for narrow flowers) occurs in our area.

	<p><i>Stenanthium</i> <i>gramineum</i> Eastern Featherbells</p> <p>Britton, N.L., and A. Brown. 1913. <i>An illustrated flora of the northern United States, Canada and the British Possessions</i>. Vol. 1: 490.</p> <p>Check out Bear Pen Gap, Frying Pan Gap, and Shut in Trail to Elk Pasture Gap in August.</p>	<p>This grass-like leaved plant is a showy, tall perennial that prefers moist open woods, moist slopes, and gorges. We often see it along the Blue Ridge Parkway.</p> <p>Its striking, white-flowered inflorescence bears its flowers in a loose, wispy, elongated, freely-branched panicle. The flowers have 6 pointed tepals.</p>
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Other genera of Melanthiaceae are *Zigadenus* and *Anticlea* (Deathcamas) and *Schoenocaulon* (Feathershank). The latter is not known to grow in our area. *Anticlea* grows on more alkaline soils, is rare, and is known only from McDowell County in NC.

Jenny Lellinger

Plant Protectors

"When I observe the fate of Botanists, upon my word I doubt whether to call them sane or mad in their devotion to plants."

Linnaeus, *Critica Botanica*, 1737

Jane Goodall in her recent book, Hope for Animals and their World, writes primarily about men and women working with threatened animal species but she devotes one chapter to plant explorers. She writes " For most people, mention of endangered species brings to mind giant pandas, tigers, mountain gorillas, and other such charismatic members of the animal kingdom. Seldom do we think of trees and plants in the same category —as life forms that, in many cases we have pushed to the brink of extinction and that desperately need our help if they are to survive."

She continues: "This discussion about healing earth's scars illustrates that, through a combination of human determination, scientific know-how, and the resilience of nature, even badly compromised habitats can be restored— and time and again we find that it is plants that start the process. Somehow they build the soil and clean the water, paving way for other life-forms to follow.

"Without plants, animals (including ourselves) cannot survive. Herbivores eat plants directly, carnivores eat creatures that have fed on plants, or to be picky, they may eat animals that fed on animals that fed on plants.

"Yet for the most part, the work of botanists and horticulturists who battle to save unique plant species from extinction, and to restore habitats, goes unnoticed. The more I thought about this, the more I realized that it was really important to recognize the sometimes extraordinary work that has been and is being done to preserve the rich diversity and sheer beauty of the plant life that brightens our planet. I wanted to acknowledge the contributions of the field botanists who travel to remote places to collect specimens of endangered species; the talented horticulturists who struggle to germinate reluctant seeds, the skill and patience of those working in herbariums, seed banks, and the many Centers for Plant Conservation that have been established in so many places around the world.

"Many of these scientists have generously shared their stories with me or informed me, of the work of others. And while unfortunately we cannot pay tribute here to all those champions of the plant kingdom, many of their fascinating stories can be found, gloriously illustrated, on our Web site."

When Jane Goodall visited Kew Gardens she heard many stories about plants in the Kew Gardens collection. Carlos Magdelena told her about a schoolboy on Rodrigues Island off the coast of Maritius. The boy discovered a small flowering shrub, *Care'marron*, about a

hundred years after it was last seen. The area was carefully searched but it seemed that only one plant had survived. There was no information on its cultivation and no other similar surviving species for comparison. Several invasive plant species were growing next to it. It was near a public road and frequently exposed to cyclones. It was a nightmare to protect. But eventually after two years of struggling, three cuttings survived.

Another Kew Garden story was of a beautiful flowering shrub, *Cylindrocline*, found in France. Seeds had been collected 14 years before the last living plant died, but none of them germinated. A few living cells were detected and from these, scientists persuaded a new plant to grow.

Reid Moran was a dedicated field botanist who for decades did botanical explorations in Baja, California and the Pacific Islands of Mexico. The Mexican islands were of immense botanical richness but were being destroyed by goats and invasive plant species. In his book, The Flora of Guadelope Island, Moran wrote "With its unique flora it is a Mexican treasure that urgently needs protection." It was only after Moran's retirement that an expedition was organized and it was found that many of the island's unique species apparently were gone or on the brink of extinction. It took "international cooperation and heroic effort to restore the devastated land to its glorious paradisiacal condition".

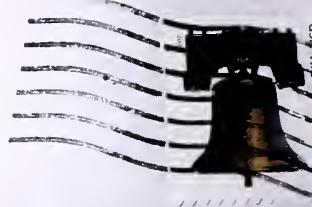
David Noble was a New South Wales national parks and wildlife officer. In 1994 he was leading a small group in the Blue Mountains of Australia about a hundred miles northwest of Sydney. He had been exploring the canyons of these mountains for more than 20 years. They came to a wild and gloomy canyon that he had never seen before. It was very deep with a rim fringed by steep cliffs. The party abseiled down into the abyss, swam through icy waters, and hiked the trackless forest. David noticed a tall tree with unusual bark and leaves. He collected a few of the leaves and when he later showed them to a botanist, he was asked whether they came from a fern or a shrub. As other experts examined the specimen, excitement began to grow as the leaves appeared to match spectacular rock imprints of prehistoric leaves that belonged to the two-hundred-million-year old *Araucariaceae* family. David led a small team of experts back to the site where the discovery had been made and later after an exhaustive search of the literature, the tree was declared a new genus and named after David, the *Wollemia nobilis*, the Wollemia pine. Further research showed that the pollen of this new tree matched pollen found in deposits across the planet dating from the Cretaceous period somewhere between 65 and 150 million years ago.

The exact location of these trees has been kept secret. Efforts made to propagate them have been successful and two are now in protected iron cages in Kew Gardens.

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Hope for Animals and their World by Jane Goodall, 2009

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Editor: Anne Ulinski
Editorial Assistants: Jean Lenhart, Kim Spencer
Member News: Ruth Anne Gibson

The purpose of the Club is to study the plants of the Southern Appalachian Mountains and the Southeast through field trips and indoor meetings. Membership is open to all. Individual/family memberships are \$15. New members joining from the period July 1-December 31, pay \$8. All memberships are renewable on January first of each year. Send dues to: Alan Graham, 544 Tip Top Road, Brevard, N.C. 28812